

NOTES ON ROSACEAE IN THE LESSER ANTILLES

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THE NOTES WHICH FOLLOW illustrate some of the problems encountered in the slow task of preparing a flora for the islands of the Lesser Antilles. Much of the field work on which the discussion below is based was supported by grants from the National Science Foundation. I am grateful, as well, to the director and staff of the Muséum National d'Histoire Naturelle, Paris, for the opportunity of studying several historical collections which have long been unidentified.

Chrysobalanus cuspidatus Griseb. ex Duss, Fl. Phan. Antill. Fr. 258. 1897; Griseb., Fl. Brit. West Indies 711. 1864 (*nomen*); Urban, Symb. Antill. 5: 351. 1907.

Licania oligantha A. C. Smith, Jour. Arnold Arb. 28: 333. 1947, *syn. nov.*

In a small section of his Flora of the British West Indies, following the list of corrections and preceding the Index, Grisebach published a "List of species received since the impression of the first volume." Included among these names are a dozen epithets, each followed by: "Gr. (n. sp.)," the country of origin, and the collector. Not one of these names is accompanied by descriptive data and none can be considered validly published. All of them, however, have been cited in subsequent publications dealing with the West Indies or have been indexed in various works and attributed to Grisebach. Each offers difficult problems of citation and typification; *Chrysobalanus cuspidatus* will serve as an example.

This name was published by Grisebach who indicated (by an exclamation mark) that it represented a new species he had seen collected by Imray in Dominica. In the January 27, 1897, issue of Botanisches Centralblatt, E. Küster published an article on the anatomical characters of the Chrysobalaneae in which he referred to "Chr. cuspidatus Griseb." He cited an Eggers collection (edit. *Toepffer* 618) and a description of the upper epidermis and of the hairs (p. 137), although earlier in the text he had considered additional anatomical details. Although a protologue in all senses, this is regarded as an inadequate description of the species.

Also in 1897, and presumably later in the year, Duss published a treatment of the plants of Guadeloupe and Martinique and supplied a more usual description of *Chrysobalanus cuspidatus* which he attributed to Grisebach. Duss cited two of his own collections from Guadeloupe, 3476 and 3633, and one from Martinique, 154. The identification of much material Duss collected and cited was made or verified by Urban, and the original collections were deposited in Berlin. In 1907 Urban included

Chrysobalanus cuspidatus in a list of new genera and species, attributing the name to Grisebach and supplying a Latin description. He cited only two of the three specimens Duss had listed and the Eggers collection Küster had cited. There are, therefore, four possible authors but the correct citation of the name should give credit to Duss for the first published description of taxonomic value and should be — *Chrysobalanus cuspidatus* Griseb. ex Duss.

The identification of a holotype or the selection of a lectotype of *Chrysobalanus cuspidatus* is more difficult. The Imray specimen from Dominica, cited by Grisebach, is in the herbarium at the Royal Botanic Gardens, Kew, but this collection was not cited by any of the three men who published a description of the species. Duss did not select a holotype from the three collections he cited, nor did Urban from among the collections he mentioned. Regrettably no material studied by Duss or Urban could be located at the herbarium in Berlin, so the eventual selection of a lectotype is left to a future worker who, having material on loan from various institutions, can select the collection and the most complete specimen to represent the species.

In addition to its previously reported distribution from Guadeloupe, Dominica, and Martinique the range of this species can be extended to St. Lucia on the basis of collections of three individuals. Material collected by John Beard in St. Lucia during the years of the second world war was identified by A. C. Smith. Two of Beard's collections, 488 and 492, were identified as a new species, *Licania oligantha*. A study of the cited material indicates an older description has been overlooked and *Licania oligantha* may be considered a synonym of *Chrysobalanus cuspidatus*. Subsequent to Beard's work additional material was collected in St. Lucia by R. A. Howard (11638) in 1950 and G. R. Proctor (21621) in 1959. This species, however, is still not represented by fruiting specimens and until that time its correct generic assignment is questionable. The field notes supplied by Beard from his collection 492, the type of *Licania oligantha*, describe the fruit as blue and attractive to birds. An annotation on the type sheet, however, indicated the fruit was not received with the collection and was lacking for the description published by Smith.

A comprehensive study of the genera *Chrysobalanus*, *Licania* and *Moquilea*, at least as they occur in the western hemisphere, is needed. The majority of recent floras have considered *Moquilea* synonymous with *Licania* and have recognized *Chrysobalanus* as a distinct genus. Distinctions between these two genera are suggested to be in the length of the inflorescence, or the number of flowers, or in the habit of the plant. *Chrysobalanus* is considered by some to be monotypic; other authors suggest three to seven species may comprise the genus. *Chrysobalanus icaco*, the type species, is admittedly polymorphic and of wide distribution. The fleshy blue colored fruit of typical *C. icaco* is different from the fruit of species of *Licania*. Beard's description suggests a typical *Chrysobalanus* fruit for *Licania oligantha*. Smith did not consider *Chrysobalanus* in his discussion of the relationships of *Licania oligantha*. This species with the

missing fruit may prove to be intermediate between typical *Chrysobalanus* and typical *Licania*. Once again, more material is needed and a detailed study not only of the variation of *Chrysobalanus icaco* wherever it occurs, but of the relations of the three genera *Chrysobalanus*, *Licania* and *Moquilea*.

Potentilla anglica Laicharding, Veg. Eur. 1: 475. 1790.

Potentilla procumbens Sibth., Fl. Oxon. 162. 1794.

I can find no modern published record of the genus *Potentilla* in the Lesser Antilles. *Potentilla argentea* was listed as a cultivated plant in the Botanic Garden of St. Pierre, Martinique, in 1829 (De l'Horme, Ann. Marit. Col. 1: 142. 1830), but apparently has not survived in cultivation anywhere in the area. In an old collection sent to me for determination is a specimen collected by Belanger in 1857. Although no specific locality is given, Belanger was director of the St. Pierre Botanical Garden between 1853 and 1881, and the specimen which is *Potentilla anglica* was presumably a weed in the garden. Subsequent collectors have not recorded this species from the French islands but another unidentified collection, *W. H. & Barbara T. Hodge 2157*, made on Dominica, is the same species. The Hodges record their collection as "a weed in moss in which roses sent from England were packed; only a few plants seen in a rose bed at Fern Villa, Ridgefield Estate." Recent visitors have checked this location and failed to find the species established as a weed.

Elsewhere in the West Indies *Potentilla reptans* L. was collected by Brown and Britton in Bermuda, in 1905, and has not been recollected. *Potentilla anglica* (as *P. procumbens*) was also collected by Harris above New Castle in Jamaica, in 1915, but has not appeared in recent collections from that island. With such scattered records, one questions the necessity for considering species of *Potentilla* in a floristic treatment of the Antilles.

Rubus ferrugineus Wikström, Sv. Vet.-Akad. Handl. 1827: 68. 1828.

Two recent collections from the island of St. Kitts appear to be best referred to this poorly represented species. Wikström described *Rubus ferrugineus* basing it on a Forsström collection from Guadeloupe. All subsequent authors have failed to consider the species with the single exception of Rydberg who included *Rubus ferrugineus* as a species endemic to Guadeloupe in his treatment of the genus in the *North American Flora* (22: 449. 1913). Unfortunately the description given by Rydberg is puzzling for he cited no specimens, and yet included details not given in Wikström's original diagnosis. Two years later Rydberg (Bull. Torrey Club 42: 136. 1915) assigned to this species a collection, *Duss 2215*, from Guadeloupe and a collection, *Nelson 3305*, from Mexico. The Duss collection was originally identified as *Rubus jamaicensis* Sw. and so cited by Duss (Fl. Phan. Fr. Ant. 260. 1897), who indicated the plant was rare, being known from but one location on Guadeloupe and not reported

from Martinique. Dr. and Mrs. Henri Stehlé, residents of Guadeloupe, who have collected extensively in the French West Indies, have been unable to relocate the species and, in a most recent reference to the Rosaceae, list only the original Duss collection under the same specific determination given by Duss. (H. & M. Stehlé and Quentin, Fl. Guad. Depend. et Mart. 2: 53. 1949). Neither Urban in his *Symbolae Antillanae* nor L. H. Bailey in his series of papers on *Rubus* refer to the Wikström species or the type collection by Forsström.

In 1950 I visited St. Kitts and had the pleasure of going into the montane forests of that island with the late Malcolm Smith. Instead of taking the routine trail up Mt. Misery, that excellent naturalist suggested a new route previously unbotanized which led through a palm break across a knife-like ridge into a mossy forest and finally, by a short descent, to a small crater lake called Dodan's Pond at 2750 feet on Verchild's Mountain. Mr. Smith explained there was a conflict regarding the existence of that pond which is reflected even in its name. Either the pond had been difficult to locate in former years and its existence was doubted, or the pond was evanescent, perhaps appearing in alternate years, for an optional spelling of the location he suggested was Dos d'Ans. At the edge of the pond and in a thicket of vegetation was a colony of blackberry plants. These had long weak trailing sterile stems and arching fertile ones capped with panicles of many flowers and excellent flavored small fruits. The specimens collected (*Howard 11962*) could not be associated with any known species from the Antilles, native or introduced, and additional material was needed. In 1959 Mr. Smith and George Proctor again visited Dodan's Pond and recollected the *Rubus*. At first it seemed the material represented a new species. It was similar to *Rubus florifolius* Bailey of Hispaniola but had a single terminal panicle, smaller prickles, and longer sepals. It lacked the coriaceous leaves and glabrous pistils of *Rubus florulentus* Focke of Puerto Rico. Rydberg's modern description of *Rubus ferrugineus* was then checked against the more general original description published by Wikström. Although a Forsström type has not been seen, the recent collections from St. Kitts appear to correspond accurately to the original description of Wikström, and suggest that many parts of Rydberg's description be discounted.

Rubus ferrugineus should be described as follows: Sterile shoots (primocanes?) delicate, long and trailing, sparsely strigose-pubescent becoming glabrate, cylindrical, purplish-brown in color. Leaves of sterile shoots with petioles 1.5–2 cm. long, leaflets 3, ovate-lanceolate, 4×1 to 5.5×3 cm. long and broad, the apex acuminate, the base obtuse or rounded, the margins sharply and finely serrate. Flowering canes arching, scrambling, slender and terete, strigose and non-glandular, pubescent becoming glabrate. Prickles numerous, scattered, recurved, broad-based and about 3 mm. long. Leaves 3-foliolate, the petioles 3–4 cm. long, strigose, conspicuously armed with short recurved prickles. Leaflet blades oblong-ovate, 5.5×3 to 8.5×3.4 cm. long and broad, the apex abruptly short acuminate, the base rounded or very slightly cordate, soft in texture

(neither coriaceous nor parchment like), glabrate above, variously pubescent below. Leaflets with 8–9 pairs of primary veins. Inflorescence a terminal panicle to 20 cm. long and 10 cm. in diameter, the rachis gray-tomentose and armed with short recurved prickles. Calyx lobes gray-tomentose on both surfaces, ovate in flower, becoming elongated to 1 cm. long in fruit. Stamens numerous with the outer ones abortive and conspicuous. Pistils gray-tomentose, forming mature achenes 3 mm. long, rugose.